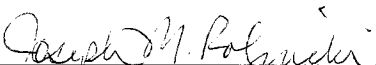


Appl. No. 10/820,330

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In re application of:
Scheller et al.

Examiner: Dowe, Katherine Marie

Serial No.: 10/820,330

Group Art Unit: 3734

Filed: April 8, 2004

For: SURGICAL INSTRUMENT
CONSTRUCTED BY ELECTRIC
DISCHARGE MACHINING

REPLY BRIEF UNDER 37 C.F.R. § 41.41

The following remarks are presented in reply to new arguments made in the "Response to Argument" section of the Examiner's Answer.

REMARKS

In the first paragraph of the "Response to Argument" section, the Examiner disagrees with the Appellant contention that the Toth reference does not teach operative microsurgical surfaces that are formed solely by electric discharge machining. The Examiner states that the Toth reference discloses the jaws of the microsurgical instrument being formed solely by electric discharge machining in column 3, lines 47-48, and in Figures 3A and 3B.

Column 3 of the Toth reference does describe forming channels 14-3 in the opposite sides of a tubular stem 14-1 to create an opposed pair of forceps jaws 14-2 shown in Figure 3B. However, column 3 of the reference continues to state that the jaws shown in Figure 3B "have not been further fashioned by bending, but are instead depicted in a state immediately following the machining of the EDM system." Column 3 of the reference then continues by describing Figure 3C as showing each of the cross-sectionally arcuate jaws 14-2 being further fashioned by bending. This description of the further bending of the jaws following the EDM cutting of the jaws should make clear that the Toth reference does not disclose operative microsurgical surfaces that are formed solely by electric discharge machining, but actually teaches away from forming operative microsurgical surfaces solely by electric discharge machining.

Because the formation of the slot 14-3 is not the final step in the formation of the forceps disclosed in the Toth reference, and because there are further procedures involved in forming the operative surgical surfaces on the Toth forceps, the reference does not disclose or suggest forming operative microsurgical surfaces on a microsurgical instrument solely by electric discharge machining.

In the second paragraph of the "Response to Argument" section, the Examiner disagrees with the Appellant contention that the further bending or shaping of the arcuate jaw sections of the Toth stem 14-1 teaches away from the microsurgical surfaces being formed solely by electric discharge machining. The Examiner argues that the jaw sections *may*

(Examiner's emphasis) be further shaped, but the jaw surfaces, and thus the operative microsurgical surfaces, are still formed by electric discharge machining.

There is no disclosure or suggestion in the Toth reference of any embodiment of microsurgical instrument that is not further machined after the EDM cutting. The further bending or shaping of the jaw sections after the EDM cutting of the stem 41 teaches away from the operative microsurgical surfaces being formed solely by electric discharge machining.

Still further, although column 1 of the summary of the Toth reference states that the opposed cross-sectional arcuate jaw sections may be bent and/or further shaped to achieve the desired final jaw configuration, column 3 of the detailed description of the Toth reference describes the opposed cross-sectionally arcuate jaw sections as having not yet been further fashioned by bending. Forming the channels 14-3 in the stem 14-1 to establish the opposed pair of forceps jaws 14-2 is an intermediate step in the formation of the forceps. The jaws 14-2 are further bent in forming the operative surgical surfaces of the forceps (see column 3, lines 47-61). There is no disclosure or suggestion in the Toth reference of the forceps operative microsurgical surfaces being formed by electric discharge machining alone. Such an interpretation of the Toth reference relies on hindsight of the present invention.

The Examiner further argues that the inventive feature of the microsurgical surface being formed solely by electric discharge machining is not recited in the rejected claims. However, this feature of the invention is recited in dependent claims 34, 41, 47 and 52. In the very least, therefore, these four dependent claims should not have been given a final rejection and their rejection should be reversed and the claims allowed.

In the third paragraph of the "Response to Arguments" section, the Examiner argues that any judgment on obviousness is a reconstruction based on hindsight reasoning that is proper so long as it does not include knowledge gleaned only from the Appellant's disclosure.

As pointed out in the Appeal Brief, none of the prior art relied on in rejecting the claims of the application discloses or suggests a microsurgical instrument having a serrated operative microsurgical surface that is created by using electric discharge machining to make the extremely small serrations on the operative surface of the instrument as recited in the application claims. In the application claims, each serration on an operative surface of the invention has adjacent peaks and a width dimension between the adjacent peaks that is smaller than 0.007 of an inch. The Appellants have discovered that no further machining of the extremely small serrations is needed after the operative microsurgical surfaces are formed by EDM alone. These discoveries of the Appellants are not disclosed or made obvious by the prior art references of record in the application. Therefore, the rejections of the claims is not based on knowledge gained from the prior art references, but includes knowledge gleaned only from the Appellant's disclosure. The rejections are therefore based on hindsight of the invention.

In the fourth paragraph of the "Response to Arguments" section, the Examiner quotes a section of the Specht reference. The contention is then made that microsurgical forceps must have serrations sized to accommodate curved needles as small as 70 microns in diameter, and that the combination of Toth and Specht teaches the limitations of the claim.


It is respectfully submitted that most any pair of electrician's pliers could hold a curved needle 70 microns in diameter. The description of the curved needle of 70 microns in diameter in the Specht reference has no relation to a disclosure or suggestion of the width dimensions of the serrations of the Specht surgical tool, or the width dimensions of the serrations recited in the rejected claims. A curved needle, no matter how small its diameter, can be held in a pair of pliers or forceps provided the length of the needle is sufficient to extend across the width of a serration of the pliers or forceps. The disclosure of the curved needles having diameter dimensions of 70 microns provides no support to the obviousness rejection of the claims.

In the fifth paragraph of the "Response to Arguments" section, the argument is made that Appellant has not provided evidence showing an unobvious difference between the claimed product and the product appearing to be substantially the same or similar, and that mere arguments cannot take the place of evidence.

The evidence of the unobvious difference between the claimed product and the instruments disclosed by the prior art is the microsurgical instrument serration having a width dimension that is smaller than 0.007 of an inch recited in the application claims. Such a width dimension is possible by forming the instrument serrations solely by electric discharge machining as described in the application specification. The evidence is provided by the application itself. The prior art includes no suggestion of forming microsurgical instruments having serrations with such a small width dimension, where the width dimension is achieved by forming the serrations solely by electric discharge machining.

For all the reasons discussed above and for the reasons set forth in the Appeal Brief, it is respectfully requested that the rejection of claims 25-42, 47, 48, 51 and 52 currently pending in the application be reversed and the claims allowed.

Respectfully submitted,
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